

Welcome to the Biweekly Restoration Information Update Page. This web site

- Provides current information on wetland and river corridor restoration projects
- Recognizes outstanding restoration projects
- Provides a forum for information sharing

We welcome the submission of articles and announcements related to your restoration project. Just send your write-up to EPA's contractor at restorationupdate@tetrattech-ffx.com or mail it to Kathryn Phillips, Biweekly Restoration Update Coordinator, Tetra Tech, Inc., 10306 Eaton Place, Suite 340, Fairfax, VA 22030. We will carefully consider your submission for inclusion in a future update. If your submission is selected, please note that it might be edited for length or style before being posted. Because this web site is meant to be a public forum on restoration information, we cannot post any information that is copyrighted or information that serves or has the appearance to serve as advocating or lobbying for any political, business, or commercial purposes.

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- [Community-Based Restoration Partnerships](#) - This section highlights innovative community-based partnerships working to restore wetlands and river corridors.
- [Funding for Restoration Projects](#) - Here you'll find information pertaining to grants and other funding sources available to local watershed groups and other grassroots community organizations to implement restoration projects.
- [News and Announcements](#) - This section includes up-to-date information on regulatory issues affecting restoration, conference and workshop announcements, and other newsworthy tidbits.
- [Restoration-Related Web Sites](#) - Check out other groups on the Web that are helping in the effort to restore wetlands and river corridors.
- [Information Resources](#) - Books, journals, fact sheets, videos, and other information resources to aid you in your restoration project are provided here.
- [Ask a Restoration Question](#) - Post your restoration related question. Answers will be provided by the EPA and Bi-Weekly readers.

Feature Article

Restoration of a California Ranch Benefits Both Wildlife and Landowners

The U.S. Fish and Wildlife Service's (FWS) State Private Lands Office in California works with conservation-minded landowners to restore and improve fish and wildlife habitats on private lands. Their partnering efforts are supported by the cost-share funds and technical assistance provided by the FWS's Partners for Fish and Wildlife Program.

Recently the FWS worked with the landowners of Pete's Valley Ranch north of Susanville at the foot of the Northern Sierra Nevada Mountains in Lassen County. The ranch consists of 1,200 acres of wet meadows, wetlands, riparian habitats, and sagebrush uplands surrounding Pete's Creek. Since the mid-1940s the ranch was managed as a cow/calf operation with season-long grazing that led to heavy use of wetland and riparian areas by livestock. Loss of willows and a lack of sedges and other streamside vegetation resulted in substantial erosion and downcutting of the creek, which lowered the water table in adjacent meadows. That allowed sagebrush to

encroach and meadows to dry early in the year. Two dams had been placed in the channel to divert water out of Pete's Creek, degrading its value for fish.

In 1993 the ranch was purchased by a group of individuals, The Pete's Creek Partnership, who noticed that the existing grazing management system was having a detrimental effect on the productivity and profitability of the ranch. The conservation-minded owners were disturbed at how fish and wildlife habitats in the creek, uplands, and wet meadows were in serious decline and decided to seek financial and technical assistance for a project to restore the damaged lands. One of the owners, Darrell Wood, contacted the Susanville Field Office of the USDA Natural Resources Conservation Service (NRCS) to see if any of the Farm Bill conservation programs could be applied to their project, and inquired with the FWS's State Private Lands Office about the Partners for Fish and Wildlife Program.

FWS and NRCS staff met with Mr. Wood at the ranch in May 1997. The FWS Private Lands Biologist discussed the Partners program and how it could apply to the project, and NRCS staff discussed how the project might be eligible for funding under the Wetlands Reserve Program (WRP) and the Wildlife Habitat Incentives Program (WHIP). Because the net benefits to fish, wildlife, wetlands, and water quality from the proposed project were so significant, funds from all three programs were awarded. Program funds and a contribution by the landowner funded a project in which 1.25 miles of Pete's Creek and a riparian buffer would be fenced to exclude cattle, dams would be removed from the creek to return historic flows, and 120 acres of upland invaded by dense sagebrush would be restored using a "brush beater" to remove the sagebrush. Native perennial grasses and forbs would return to the upland once the sagebrush was removed. Four years later a dense riparian growth of sedges, forbs, grasses, and willows have returned to provide foraging and breeding habitat for migratory songbirds, and mallards nest in dense cover along the channel. Pronghorn are abundant and have access to the improved forage along the creek through the wildlife-friendly fence. A greater sage grouse "lek" (land suitable for courtship behavior) is present on the ranch, and as many as 100 sage grouse have been seen on the property at one time. Sage grouse are nesting in the sagebrush adjacent to the creek, and chicks and hens are seen foraging among forbs and perennial grasses in the riparian area. After the 10-year Partners agreement has been completed, the landowners are permitted to decide whether or not they wish to allow cattle to graze along the creek. Whatever the future holds for the ranch, because of the partnerships developed between the landowner, the FWS, and others, the landowners have achieved their goals of increasing the water-holding capacity of the land and decreasing the amount of erosion on the streambank and upland areas.

The landowners have seen an economic benefit as well. Livestock carrying capacity has increased from 200 to 300 pairs, and weaning weights have increased from 400 to 650 pounds. To quote Darrell Wood, "Partners for Fish and Wildlife and these other programs have allowed me to make improvements to the ranch that would not be financially feasible otherwise." That's what the Partners program is all about: working with private landowners to achieve the mutual objectives of providing habitat for fish and wildlife while sustaining or increasing agricultural income from the land. For more information, contact Daniel Strait, U.S. Fish and Wildlife Service, at (916) 414-6456 or visit <http://pacific.fws.gov/capfw>.

If you'd like your project to appear as our next Featured Article, e-mail a short description to restorationupdate@tetrattech-ffx.com.

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Five-Star Restoration Projects Update

The goal of EPA's Five-Star Restoration Program is to bring together citizen groups, corporations, youth conservation corps, students, landowners, and government agencies to undertake projects that restore streambanks and wetlands. The program provides challenge grants, technical support, and peer information exchange to enable community-based restoration projects. A few five-star restoration projects are being revisited to see if the modest amount of funding (between \$5,000 and \$20,000) has helped the local restoration partners achieve their goals.

Project Name: Active Riparian Commensal Habitat (ARCH) Education Network

Five-Star Grant: \$10,000, FY 2000

Grant to: Chattahoochee High School

Project Location: Alpharetta, Georgia

Original Project Description:

Chattahoochee High School students in partnership with Fulton County Government, Georgia Institute of Technology, and other private and state organizations will construct a wetland treatment system as part of a larger Active Riparian Commensal Habitat (ARCH) Education Network to raise awareness about habitat and water quality protection in the Chattahoochee River Watershed. The overall project will involve building an education center that will include constructed wetlands, environmental education stations, an amphitheater, and a stormwater treatment pond. The area will be an outdoor classroom for the community and the school. Students will be involved in project design, site plan layout, tree protection, and wetland planting activities. For additional information, contact Abigail Friedman. National Association of Counties (202) 942-4225.

Project Update:

Thanks to ongoing efforts by Chattahoochee High School students and the perseverance of participating teachers, the ARCH Educational Network has taken a large step closer to completion.

The Community Development fund of Georgia awarded the high school a \$240,000 grant to fund construction on a pollutant-removing wetland on school grounds.

The work behind this success began 5 ½ years ago when students noticed the rubbish and pollution leaving the retention pond on school grounds and entering nearby John's Creek.

Students, along with science teacher Dell Pamphlin, began working on a plan to replace the retention pond with a natural wetland that would filter and purify water entering the creek.

The Five Star partnership allowed students to take the preliminary steps in the creation of the ARCH Educational Network. They developed the plans for a handicapped-accessible education facility that would include an amphitheater, trails and walkways, and educational stations. Up to this point, however, they lacked the funds to construct the wetland habitat. After site visits by Georgia Congressman Johnny Isakson, state representative Mark Burkhalter, and Fulton county school board member Katie Reeves, the school received the \$240,000 grant for the project. It was a great candidate for the grant award because the site provides for a wide variety of educational opportunities, as well as serving as a demonstration site for using the ARCH program to treat runoff water.

For more information on EPA's Five-Star grant program, visit

<http://www.epa.gov/owow/wetlands/restore/5star/>.

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Community-Based Restoration Partnerships

The Valley Bay Chapter of Ducks Unlimited Restores Wetlands to Benefit Ducks

The organization known as Ducks Unlimited rose out of an awareness that waterfowl need wetlands to survive. By the 1930s, a large majority of American wetlands had been converted to farmland or other uses. In the late 1930s, Ducks Unlimited was formed by a small group of conservationists who joined together to raise money to protect prairies and wetlands for the sake of waterfowl. Today, Ducks Unlimited's mission is to fulfill the annual life cycle needs of North American waterfowl by protecting, enhancing, restoring, and managing important wetlands and associated uplands. Ducks Unlimited has partnered with federal, state, and local organizations in numerous projects across the United States to achieve its mission.

The California Valley Bay chapter of Ducks Unlimited recently completed two projects, resulting in the restoration of 1,500 acres of wetland habitat. The Kerry-Su Wetland Habitat project restored more than 1,400 acres of wetland habitat in California's Grasslands Ecological Area that had formerly been drained to use as farmland. To complete the project, restoration crews filled drainage ditches, removed power lines, and installed water control structures. The moist soil conditions created by the restoration project has allowed the growth of a diversity of aquatic vegetation on which waterfowl feed. So far the wetland area has attracted more than 100 broods of waterfowl.

The second project recently completed by the Valley Bay Chapter returned 72 acres of hay farmland along San Pablo Bay to native salt marsh. The levee separating the bay from the farmland was breached and the inflow of water created tidal wetland and marsh areas. Student volunteers, recruited through Ducks Unlimited and the local Save the Bay community-based restoration program, have worked to collect and transplant pickleweed, one of the many types of native vegetation expected to return to the area. The salt marsh will benefit wintering waterfowl and shorebirds as well as the endangered salt marsh harvest mouse. To complete the San Pablo Bay Tidal Wetland Habitat Restoration Project, Ducks Unlimited partnered with the Wildlife Conservation Board, United Heckathorn Trustee Council, U.S. Fish and Wildlife Service, Gateway Pacific Contractors, Western Construction and Mining, and Cooper Crane and Rigging. Further projects are planned to restore a total of 14,225 acres within the San Francisco Estuary. For more information on Ducks Unlimited, visit their web site www.ducksunlimited.org. The organization known as Ducks Unlimited rose out of an awareness that waterfowl need wetlands to survive. By the 1930s, a large majority of American wetlands had been converted to farmland or other uses. In the late 1930s, Ducks Unlimited was formed by a small group of conservationists who joined together to raise money to protect prairies and wetlands for the sake of waterfowl. Today, Ducks Unlimited's mission is to fulfill the annual life cycle needs of North American waterfowl by protecting, enhancing, restoring, and managing important wetlands and associated uplands. Ducks Unlimited has partnered with federal, state, and local organizations in numerous projects across the United States to achieve its mission.

Westchester Government Helps Long Island Sound

Long Island Sound does more for Westchester County than simply serving as a geographic boundary; it affects the County's economic, recreational, and environmental well-being. In the same way, the everyday actions of County citizens directly impact the health and water quality of the sound. Nonpoint source pollution has been identified as a major factor affecting the health of the sound. Stormwater containing sediment, fertilizers, pesticides, petroleum, heavy metals, and wastewater from failing septic systems drains into streams and rivers and eventually flows into the sound. In 1991 Westchester County launched a nonpoint source control program to limit the effects of runoff pollution.

The nonpoint source control program combined a variety of approaches to educate county citizens. The county created posters to increase public awareness that everyday activities such as fertilizing a lawn and washing a car have an affect on water quality. They also formed Watershed Advisory Committees comprised of residents and municipal staff who work toward creating watershed management plans in their respective study areas. The committees receive administrative and technical help from County Planning Department staff.

The community has also undertaken an extensive stream and wetland restoration effort. Restoration sites are chosen for their ability to improve water quality and fish and wildlife habitat, their accessibility to the public, and their potential educational benefits. The sites are then restored using bioengineering techniques that establish native vegetation. This vegetation works to filter nutrients and sediment from the water and prevent them from entering the bay and filling lakes and ponds. The county has undertaken 13 restoration efforts, including salt marshes in Echo Bay at Five Islands Park in New Rochelle, a freshwater segment of Blind Brook at Rye Middle/High Schools in Rye City, a salt marsh and coastal dune at the Edith Read Natural Park and Wildlife Sanctuary in Rye City, a freshwater pond at Town Park in Pound Ridge, a freshwater wetland next to Beaver Swamp Brook in Harrison, and removal of exotic and invasive vegetation and planting native vegetation at the Edith Read Natural Park and Wildlife Sanctuary in Rye City. For more information, visit www.westchestergov.com/planning/environmental/default.htm.

If you are part of an innovative community-based partnership that is working to restore river corridors or wetlands, we'd like to hear from you. Please send a short description of your partnership to restorationupdate@tetrattech-ffx.com.

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Achieving Restoration Results

A Ranch Owner Dreams of Restoration

Jim Crosswhite is not a traditional rancher. In 1996 after over-grazing and growth of rabbitbrush had severely degraded the land on EC Bar ranch, Crosswhite bought it. Traditional ranchers would never purchase a ranch that could support only 50 head of cattle (which is not enough to make a living on), but Crosswhite dreamed of improving the ranch by implementing economical and environmentally friendly ranching techniques. After years of hard work, his dreams have come true.

Soon after Crosswhite purchased the ranch, he hired a contractor to evaluate the riparian corridor along the 1.5 miles of Nutrioso Creek that ran through his ranch. The contractor rated the land "nonfunctional" in places and "functional-at-risk in a downward trend" in others. Livestock grazing had reduced vegetation along the streambanks, and without anything to stabilize the soil, erosion increased with every storm. Sediment from the eroding banks also degraded aquatic habitat in the stream.

Crosswhite tackled the challenge of restoring the riparian habitat head-on. A grant from the Arizona State Land Department's Stewardship Incentives Program provided 75 percent of the funding to install fencing around the riparian corridor. The \$6,750 grant, along with Crosswhite's contribution, allowed approximately 60 acres of streamside habitat to be fenced and prevented cattle and elk from entering the streamside area and destroying new grass during critical growing periods.

When the fencing was first installed, gaps were left to allow cattle and wildlife to access the stream for drinking water. A grant of \$19,800 received in December 1998 from the Arizona Water Protection Fund (AWPF) allowed Crosswhite to install alternative watering systems. These reliable watering systems allowed Crosswhite to close the gaps in the riparian fencing, further protecting the newly established riparian vegetation from cattle and wildlife. AWPF was so impressed by the success of the alternative watering systems that they extended an additional \$30,000 grant for the installation of additional watering systems along elk migration routes on Crosswhite's property.

Crosswhite received further funding from the Natural Resources Conservation Service's Environmental Quality Improvement Program, the Arizona Game and Fish Department, and EPA's Section 319 funding to put up cross-fencing to institute rotational grazing practices, install stream grade stabilization structures, plant native grasses, and construct efficient irrigation systems.

The results of Crosswhite's restoration efforts have been very successful. The stream is now rated as "functional-at-risk with an upward trend" and is expected to improve to a rating of "proper functioning condition" within the next few years. In addition, the restoration practices implemented on the EC Bar Ranch have been recommended in the final Total Maximum Daily Load (TMDL) for the creek.

After all that Crosswhite has done, he continues to push forward with his restoration work. In 2000 he purchased an additional mile of Nutrioso creek and is in the process of installing all the restoration practices recommended in the TMDL report. He is also actively educating the public about his ideas. People interested in learning from his experiences can either attend workshops or take one of the monthly tours of EC Bar ranch. For more information, visit the EC Bar Ranch web site at www.ECBarRanch.com or e-mail Jim Crosswhite at jim@ECBarRanch.com.

If you are part of an innovative restoration project that has had positive results, we'd like to hear from you. Please send a short description of your project to restorationupdate@tetrattech-ffx.com.

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Funding for Restoration Projects

New Listings:

Five Star Restoration Challenge Grant Program Soliciting Applications

The EPA in cooperation with the National Association of Counties, the National Fish and Wildlife Foundation, the Wildlife Habitat Council, and the Community-Based Restoration Program within NOAA Fisheries is soliciting applications for the Five Star Restoration Challenge Grant Program. The Five Star Restoration Program provides modest financial assistance on a competitive basis

to support community-based wetland, riparian, or coastal habitat restoration projects. The goal of the Five Star program is to build diverse partnerships and foster local natural resource stewardship through education, outreach, and training activities. In 2001 the Challenge Grant program funded 60 out of 230 applications. Grants averaged \$10,000 each. To receive funding, projects must involve diverse partnerships of ideally five organizations that contribute funding, land, technical assistance, workforce support, and other in-kind services. Projects must include a strong on-the-ground wetland, riparian, or coastal habitat restoration component, and should also include education, outreach, and community stewardship components. Projects involving only research, monitoring, or planning are not eligible for funding. For more information, visit www.epa.gov/owow/wetlands/restore/5star.

New York-New Jersey Harbor Estuary Program Mini-grants Available

Friday, January 11, 2002 is the deadline for submitting proposals for the New York-New Jersey Harbor Estuary Program (HEP). The program is offering grants of up to \$4,000 to support and encourage the efforts of citizen stewards whose goals are consistent with those of the Estuary Program. HEP Mini-grants fund projects that reach out to people to encourage them to participate actively in the protection and restoration of the estuary, promote estuarine education, increase public awareness, and emphasize that harbor ecosystems are living environmental and social resources. The HEP Mini-grant Proposal Form and instructions are available online at www.harborestuary.org. If you have any questions, contact Laura Bartovics, HEP Outreach Coordinator, at (212) 637-3816 or info@harborestuary.org.

NOAA Grants for Dam Removal and Fish Passage Projects

American Rivers is seeking proposals for community-based river restoration grants as part of its new partnership with the National Oceanic and Atmospheric Administration (NOAA) Community-Based Restoration Program. The grants are designed to provide support for local communities that are using dam removal or fish passage to restore and protect the ecological integrity of their rivers and improve freshwater habitats important to migratory (anadromous) fish. Grants will be limited to projects in the Northeast, the Mid-Atlantic, and California. Successful applicants will be given nonrenewable grants to assist in the technical application of fish passage or dam removal. Applications must be received by April 1, 2002. For more information, visit

www.amrivers.org/feature/restorationgrants.htm or http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/index.html.

EcoResults! Links Supporters with Project Funds

A recently-formed non-profit organization called EcoResults! believes in using donated funds to reward landowners for their environmental stewardship efforts, rather than funneling the money into legislation development and litigation. To do this, the Arizona-based EcoResults! serves as a conduit for funds from organizations and individuals willing to provide contributions, grants, and sponsorships for restoration projects. EcoResults! uses the funds they receive to help the landowner or restoration project manager fulfill the matching funds usually required for grants from federal and state agencies and foundations. The EcoResults! web site (www.ecoreresults.org) features descriptions and pictures of ongoing restoration efforts that are available for the public to directly support by donating money. They currently have four projects for which they are seeking funds, including restoring a watershed in New Mexico, restoring a marsh in Nevada, restoring a desert meadow in Nevada, and helping to sustain Navajo pastoralism. For more information visit their web site, call (520) 213-5913, or e-mail info@.ecoreresults.org.

News and Announcements

Wildlife Habitat Council Announces the 2001 National Habitat Conservation Award Winners

The Wildlife Habitat Council (WHC) announced its 2001 National Conservation Award winners at the 13th Annual Symposium, Science & Stewardship: Creating Greener Communities. The National Conservation Awards recognize voluntary activities by individuals, companies, and organizations who demonstrate excellence in the areas of wildlife habitat enhancement and restoration. Recipients are also recognized for employing practices that protect natural resources and promote significant economic benefits.

The 2001 award winners are:

- Ontario Power Generation's Pickering Nuclear Plant in Ontario, Canada, received the Corporate Habitat of the Year award.
- Georgia-Pacific Corporation's Leaf River Pulp Operations in New Augusta, Mississippi, received the Rookie of the Year award.
- BP America Incorporated's Cooper River Plant in Wando, South Carolina, received the Corporate Lands for Learning of the Year award.
- Jerry Newman, a bluebird conservationist, received the Community Partner of the Year award. He was nominated by Bridgestone/Firestone, Inc., for his work at New Beginnings—The Woodlawn Wildlife Area in Port Deposit, Maryland.

For more information on the awards, visit the WHC homepage www.wildlifehc.org or read the article at ENN News: www.enn.com/direct/display-release.asp?id=5720.

Army Corps of Engineers' Plan to Restore Hamilton Army Airfield Wetland

Ninety percent of the tidal wetlands that existed around the San Francisco Bay in 1800 have been destroyed by diking or filling for purposes of agriculture, development, or salt production. The Army Corps is seeking to undo some of that damage. On November 30, 2001, the U.S. Army Corps of Engineers, San Francisco District, in collaboration with the California Coastal Conservancy and the San Francisco Bay Conservation and Development Commission, announced its proposal to restore wetlands on the 1,610-acre Bel Marin Keys Unit V (BMKV) property as an expansion of the Hamilton Wetland Restoration Project at the Hamilton Army Air Field (HAAF). The project area historically supported subtidal bay, tidal wetland, and possibly freshwater marsh habitat, but levees constructed during the early 20th century separated the area from the tidal influence of San Pablo Bay, which allowed the site to dry up. The area has remained in agricultural use for the last century and it currently supports hay production. The site has subsided to below sea level. The goal of this project is to create a diverse array of wetland and wildlife habitats at the BMKV and HAAF sites that benefit endangered species as well as other migratory and resident species. Information on the project can be found on the web at www.coastalconservancy.ca.gov/belmarin.

Virginia and North Carolina Work Together Sign Pact to Restore Albemarle-Pamlico Estuary

After years of disagreements, Virginia and North Carolina have signed a first-ever agreement to help restore the second-largest estuary in North America, the Albermarle-Pamlico Estuary. In previous years, Pfiesteria, a lesion-causing organism, caused massive fish kills in the estuary. Scientists believe high levels of nitrogen and phosphorus washing into waterways contribute to the problem. The newly signed agreement calls for state officials to share scientific data and to meet regularly on issues such as pollution, development trends, wetlands, and water quality. To view the complete article, visit http://enn.com/news/wire-stories/2001/11/11302001/ap_45715.asp.

Corps of Engineers Seeks Input From Federal Agencies

After receiving much criticism over its new regulatory guidance regarding how developers will compensate for destroying wetlands, the U.S. Army Corps of Engineers is asking for input from other federal agencies. The regulatory guidance released by the Corps in November was criticized for being too lenient, and opponents of the change claimed the guidance would lead to a net loss of wetlands across the United States. Brigadier General Robert Griffin assures opponents the Corp's intention was not to back off on the "No net loss" policy, and that the changes were an attempt to address recommendations made in a National Research Council's report suggesting ways to improve the Corps' mitigation procedures. The Corps will accept comments on the regulatory guidance letter through March 1, 2002. The Corps' Regulatory Guidance Letter and the National Research Council report are accessible online at www.usace.army.mil/civilworks/hot_topics/rglmitigation.htm.

Wetlands Restoration and Management Guidance Available for Comment

National Management Measures to Protect and Restore Wetlands and Riparian Areas for the Abatement of Nonpoint Source Pollution (draft) is available for public comment. This draft

guidance is intended to provide technical assistance to state, local, and tribal program managers and others on the best available, economically achievable means of reducing nonpoint source pollution through the protection and restoration of wetlands and riparian areas, as well as the implementation of vegetated treatment systems. The guidance can be viewed at www.epa.gov/owow/nps/wetmeasures. The deadline for comments is February 4, 2002. Comments may be sent to Christopher Solloway of EPA's Nonpoint Source Control Branch at solloway.chris@epa.gov.

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Upcoming Conferences and Events:

NEW LISTINGS:

Phragmites australis: A Sheep in Wolf's Clothing?

January 6—9, 2002

Vineland, New Jersey

This technical forum will focus on presenting current research and diffusing the myths of managing *Phragmites australis*. The forum will focus on addressing conditions associated with *Phragmites*' population stability or population expansion, its role in nutrient flux and biogeochemical processes, its competition with other macrophytes, its effect on geomorphology, hydrology, and habitat quality for fauna, and its effects on the general landscape.

The technical forum will also include a facilitated workshop in which challenge questions will be discussed among an invited panel and the audience. The forum will allow managers to hear directly from leading experts on *Phragmites*' ecology and vice-versa and promote discussion between *Phragmites* researchers and managers. The proposed workshop will help focus the national effort in multi disciplinary research to better understand the ecology of *Phragmites australis* and its ecosystem level effects.

Midwest Ephemeral Wetlands "A Vanishing Habitat"

February 20—21, 2002

Chicago, Illinois

Ephemeral wetlands are depressional wetlands that temporarily hold water in the spring and early summer or after heavy rains. This conference will address the natural history, conservation issues, restoration activities, educational projects, and regulatory impacts of ephemeral wetlands. Land resource managers, educators, landowners, and people interested in the ecology of ephemeral wetlands are encouraged to attend. For additional information or to order a copy of the *Midwestern Ephemeral Wetlands* pamphlet, visit

<http://www.epa.gov/R5water/ephemeralwetlands/index.htm>.

Converging Currents: Science, Policy, and Culture at the Coast

May 19—22, 2002

Galveston, Texas

The Coastal Society's 18th International Conference will explore interrelationships among the physical, ecological, cultural, and political currents that converge at our nation's coast. To examine these interrelationships, the conference will have three sub-themes: coastal watersheds and estuaries—exploring the vital link between land and water; ecosystem perspectives at the regional scale—the Gulf of Mexico case study; and national treasures and the international commons—ocean resources in the 21st century. For more information, visit

www.thecoastalsociety.org/tcs18 or e-mail coastalsoc@aol.com.

PREVIOUS LISTINGS

Northwest Stream Restoration Design Symposium

January 31—February 2, 2002

Skamania Lodge, Washington

The Center for Water and Environmental Sustainability; the Civil, Construction, and Environmental Engineering Department at Oregon State University; and the City of Portland's Bureau of Environmental Services are sponsoring this symposium to advance the state of practice for professionals involved in stream restoration projects. The symposium will focus on restoration questions of concern to project planners, designers, managers, regulators, and owners. The program addresses urban stream restoration; use of wood versus rock in stream restoration projects; stream restoration design approaches, methods, and analyses; adaptive

management during construction and thereafter; and dam removal and reestablishment of a riparian environment. Emphasis is placed on constructed projects and the lessons learned that can be used in other projects. For more information, visit www.cwest.orst.edu.

The Ecology and Management of Rare Plants of Northwestern California

February 6—8, 2002

Arcata, California

This conference will provide current information to enhance rare plant management in northwestern California and southeastern Oregon. Invited speakers will deliver overviews of major taxa and issues in three main areas: autecology and life history; survey and monitoring; and management, protection, and restoration. Contributed oral and poster presentations will offer perspectives on new research and findings, and will illustrate examples of successful programs, approaches, and case studies. In addition, the symposium will provide an opportunity for biologists, natural resource professionals, planners, and policy-makers to share their concerns and knowledge about rare plant issues and to formulate research and education needs. For more information, visit www.northcoast.com/~cnps.

To post your restoration news and announcements, please send information to restorationupdate@tetrattech-ffx.com.

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Restoration-Related Web Sites

Let us know about your restoration-related web site. Please send relevant URLs to restorationupdate@tetrattech-ffx.com. www.lowimpactdevelopment.org/mainhome.html

The Low Impact Development Center seeks to develop and provide information to individuals and organizations dedicated to low-impact development. Low-impact development protects water resources through land planning and design to limit the impacts of urban growth on our nation's waterways. *This site would be useful to individuals and communities wishing to improve water quality by minimizing the impact of urban development on the nation's waterways.*

www.conserveonline.org

ConserveOnline is a public library of conservation tools, techniques, and experience, and a community of conservation practitioners provided by the Nature Conservancy. ConserveOnline is an open forum for sharing successes and failures, and for connecting scientific research with field-based conservation practice. *This site is intended to provide information and support to anyone making conservation-related decisions, from the staff of conservation organizations to land managers at government agencies to local land trusts to private landowners.*

wiscinfo.doit.wisc.edu/herbarium

Wisconsin Vascular Plants is a database of plant species found in Wisconsin. The database is searchable by name, habitat, county, family, genera, or common name, and provides information on the plant as well as a picture. Under an EPA wetlands grant, an index was developed and included in the database that indicates the likelihood of the plant being found in presettlement conditions. *This site provides useful information on wetland plant species throughout Wisconsin.*

www.usda.gov/stream_restoration/newlnk.htm

Stream Corridor Restoration Links is part of the USDA's Stream Corridor Restoration Principles, Processes, and Practices web site. It offers links to other restoration web sites in the following areas: education/research, techniques and practices, and river management. *This site would be useful for someone seeking additional information about restoration.*

sci.tamucc.edu/aawp/welcome.htm

Adopt-A-Wetland Program offers hands-on training designed to illustrate the natural functions and economic values of wetlands; assists teachers in meeting the Texas Education Agency's learning requirements; provides wetland classroom activities and curriculum materials for teachers; teaches low-impact sampling techniques, water quality monitoring, and how to identify wetland plants and animals; helps organize, implement, and supports students wetland monitoring projects; and provides continuing education and technical support for program participants. *This site would be useful for educators wishing to incorporate wetland education into their curriculum.*

www.marylandheights.com/

The Maryland Heights' Urban Restoration site outlines the City's use of biostabilization to restore streams and reduce erosion. The site includes diagrams and pictures of the City's projects. *This site would be useful for anyone looking for examples of stream biostabilization.*

www.cob.org/cobweb/pw/ER/restoration.htm

Environmental Resources is a web site maintained by the Environmental Research Division, Department of Public Works of the City of Bellingham, Washington. The Environmental Research Division focuses on restoring degraded ecosystems and works to support and protect healthy habitats. The site describes two of their restoration projects plus their efforts to perform a stream assessment using CITYgreen software. *This site offers useful information for anyone interested in local government restoration projects.*

www.dnr.state.mn.us/ecological_services/streamhab/

The Minnesota Department of Natural Resources' Stream Habitat Program gathers and provides information on Minnesota's 90,000 miles of rivers and streams, helping to protect and restore them. The site offers a link to many publications that would be useful for restoration projects; the publications address topics such as native and exotic plants, ecosystem restoration, and wetland protection. *This site would be useful for anyone interested in restoration in northern climates.*

kh465a.ag.ohio-state.edu/ORW.html

The Olentangy River Wetland Research Park at Ohio State University is designed to be one of the most comprehensive wetland research and education facilities in the nation. This web site offers swamp virtual tours, links to articles and other information on wetlands, and wetland-related news. *This site provides an excellent example of how to make wetland research and education available to the public.*

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Information Resources

Vegetation Indices of Biotic Integrity (VIBI) for Wetlands

Published by Ohio EPA Division of Surface Water, November 2001

A new technical report is available on the Ohio Division of Surface Water's Wetlands Bioassessment program page. This report presents the vegetation sampling method developed by the Ohio EPA Division of Surface Water, characterizes the vegetation in different wetland types, and outlines preliminary aquatic life uses. The PDF file can be downloaded from www.epa.state.oh.us/dsw/wetlands/wetland_bioassess.html.

Wetland Restoration Handbook for Wisconsin Landowners

Published by the Wisconsin Department of Natural Resources, June 2000

This 110-page book written by the Wisconsin Wetlands Association provides a wealth of information to individuals interested in restoring degraded wetland acreage on private property. Following an introduction to Wisconsin's wetlands, the handbook leads the landowner through the various stages of information gathering and planning for a restoration project. Although there is no "recipe" for wetland restoration, as each site is unique, the handbook gives guidance and resource information to help with the restoration process. More information on the publication and ordering information are available at www.wiscwetlands.org/.

Western Wetland Flora Field Office Guide to Plant Species

This field guide is maintained by the U.S. Geological Survey's Northern Prairie Wildlife Research Center. It provides information on 300 species of vascular plants common to wetlands in the western United States. The field guide provides a colored photograph, distribution map, plant description, and habitat description for each plant catalogued. The guide can be accessed via the web at www.nps.gov/resource/othrdata/WESTFLOR/WESTFLOR.HTM.

If you'd like to publicize the availability of relevant information resources, please send information to restorationupdate@tetrattech-ffx.com.